

REMARKS

Claims 1, 3, 5-8 and 10-15 are pending in this application. By this Amendment, claims 1, 8, 10 and 11 are amended. Claims 12-15 are added. No new matter is added.

I. Claim Rejections Under 35 U.S.C. §112

Claim 10 is rejected under 35 U.S.C. §112, second paragraph. As claim 10 is amended, Applicant respectfully requests the rejection of claim 10 under 35 U.S.C. §112, second paragraph, be withdrawn.

II. Claim Rejections Under 35 U.S.C. §102

Claim 10 is rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 6,455,974 to Fogarty. The rejection is respectfully traversed.

Applicant asserts that Fogarty does not disclose each and every feature recited in claim 10. For example, Fogarty does not suggest a rotary electric machine, comprising *inter alia* . . . a multi-phase winding including a plurality of phase windings received in the slots, a number of turns at each of the phase windings in each of the slots being fixed to a first integer, . . . wherein the phase windings are connected to one another in a predetermined form of a Y-connection and a Δ-connection to provide an output which is intermediate between first and second outputs which the rectifier device provides when the phase windings are connected in the Y-connection and the number of turns in each slot is fixed to the first integer and to a second integer having a value which is less than the first integer by one, wherein each of the phase windings is composed of a plurality of conductor segments in at least two lengths joined together in a same slot.

Fogarty discloses a combined Delta-Wye armature winding for synchronous generators. The Office Action alleges that the winding bars or winding cable sections 34 correspond to a plurality of conductor segments in at least two lengths joined together in a same slot. However, there is no disclosure in Fogarty of the winding bars or winding cable

sections being of different lengths. In fact, Fogarty specifically states that "the connections of the armature windings need not require adjusting the internal electromagnetic configuration, such as the number of stator coils, stator coil diameter, and length without modifying the mechanical design of the generator" (col. 7, lines 47-50). Thus, Fogarty does not disclose or even contemplate phase windings composed of a plurality of conductor segments in at least two lengths joined together in the same slot.

Furthermore, Fogarty does not disclose that the number of turns in each slot is fixed to the first integer and to a second integer having a value which is less than the first integer by one. Although, Fogarty does disclose windings configured in a hybrid Delta and Wye configuration by interconnecting certain portions of each winding in a Delta configuration and connecting other portions of the winding in a Wye configuration, Fogarty is silent as to the number of turns in each slot. Rather, Fogarty merely discloses that the end turns 36 provide a ready-made point in which electrical connection may be made to tap into a phase winding circuit. (Col. 6, lines 14-21.) Fogarty also specifically discloses that each winding circuit segment may be a single turn of a winding in a stator (col. 5, lines 42-43) when referring specifically to a Delta winding arrangement, but does not provide any teaching or disclosure of the winding as recited in rejected claim 10. Thus, Applicants respectfully requests the rejection of claim 10 under 35 U.S.C. §102(e) be withdrawn.

III. Claim Rejections Under 35 U.S.C. §103

Claims 1, 5 and 8 are rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,140,735 to Kato et al. (Kato) in view of Fogarty. The rejection is respectfully traversed.

Applicant asserts that there is no suggestion in either of the references to make the combination as alleged in the Office Action. Kato addresses decreasing the size of a rotary electric machine and the power loss due to an increased size of an electric rotary machine. In

contrast, Fogarty is addressing a need for generators that can be easily configured for various fixed voltage output requirements without having to redesign the entire electrical and mechanical nature of the generator. As the applied references are addressing differing problems, Applicant submits that there is no motivation for one skilled in the art to make such a combination.

Additionally, even were such a combination made, the combination of references does not disclose or suggest each and every feature recited in the rejected claims. For example, the Office Action admits that Kato does not disclose or suggest the claimed feature of one end of the phase winding connected to a middle point other than both ends of another one of the phase windings in a cyclic manner among the phase windings. To overcome the admitted deficiency the Office Action combines Fogarty and alleges that it would have been obvious to one or ordinary skill in the art to combine the references as Fogarty allegedly discloses the missing feature.

However, Fogarty discloses no such feature. Rather, as recited in the Abstract of Fogarty, and shown in Fig. 7, each of the sections are connected at one end to a node of the Delta topology where two of the first winding sections are connected. Thus, the combination of references does not disclose or suggest a multi-phase winding including a plurality of phase windings wound in the slots at predetermined angular levels wherein one end of the phase windings is connected to a middle point other than both ends of another one of the phase windings in a cyclic manner among the phase windings. Accordingly, Applicants respectfully request the rejection of claims 1, 5 and 8 under 35 U.S.C. §103(a) be withdrawn.

The Office Action rejects claims 3 and 7 under 35 U.S.C. §103(a) as unpatentable over Kato and Fogarty in view of U.S. Patent No. 5,122,705 to Kusase et al. (Kusase); and claims 6 and 11 are rejected under 35 U.S.C. §103(a) as unpatentable over Kato and Fogarty in view of U.S. Patent No. 6,498,414 to Asao. The rejections are respectfully traversed.

Applicant asserts that claims 3, 6, 7 and 11 are allowable for their dependency on their respective base claims, as well as for the additional features recited therein. Accordingly, Applicants respectfully request the rejection of claims 3, 6, 7 and 11 under 35 U.S.C. §103(a) be withdrawn.

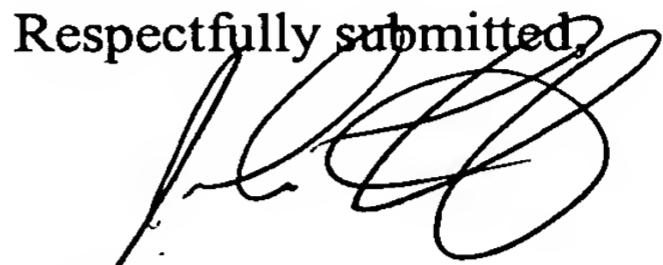
IV. New Claims

Applicant submits that claims 12-15 are also allowable for their dependency on their respective base claims, as well as for the additional features recited therein. For example, none of the applied references, whether considered alone or in combination, disclose or suggest a rotary electric machine, further comprising a rectifier device for rectifying voltages induced in the multi-phase winding, wherein each of the phase windings includes a first winding and a second winding connected in series, the first winding being connected to the middle point of the another one of the phase windings and having a middle point to which a third one of the phase windings is connected, and the second winding being connected to the rectifier device and having no middle point which is connected to the another one of the third one of the phase windings, and wherein only a part of the first winding of each of the phase windings provides a Δ connection of a stator winding of an alternator, and the second winding of each of the windings is connected to the rectifier device to provide a Y-connection of the stator winding of the alternator, as recited in claim 12.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 3, 5-8 and 10-15 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


James A. Oliff
Registration No. 27,075

John W. Fitzpatrick
Registration No. 41,018

JAO:JWF/ldg

Date: June 24, 2004

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, Virginia 22320
Telephone: (703) 836-6400

**DEPOSIT ACCOUNT USE
AUTHORIZATION**
Please grant any extension
necessary for entry;
Charge any fee due to our
Deposit Account No. 15-0461